

Executive Summary

Congestion Mitigation Systems Plan "Vision 2020"



February 2003

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Prepared for:
South Western Regional Planning Agency

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Executive Summary

In 1999, Michael Gallis and Associates presented the following statement: “Connecticut’s access to the global marketplace is principally through the I-95 corridor. This corridor, with interstate and transit lines, provides access into the very dynamic New York metro region and access to the continental grid. As congestion increases in this corridor and the major global connections move west of the Hudson, this corridor will not offer the level of access to the economic activities and hubs necessary to support Connecticut’s institutions, businesses and people. Congestion effectively blocks economic activity from extending farther than Stamford in the Coastal Corridor. Opening this corridor would allow economic activities to extend more into the statewide network.”

In this state, transportation provides the framework necessary to keep pace with the evolving global marketplace. A transportation system that cannot handle the growing demands of people and goods movement will eventually form a rift in the economic sustainability of Connecticut. As this happens, businesses and people will relocate. Municipalities will suffer from diminishing tax bases. The quality of life that Connecticut citizens enjoy will deteriorate.

The solutions to these problems are difficult. They are often costly and controversial. Hard decisions will need to be made by policy makers, government agencies, business leaders and citizens. Decisive steps must be taken. The Congestion Mitigation System 2020 Study - also known as “Vision 2020” - has developed a vision for southwestern Connecticut. It is a vision that will help to reduce congestion, improve air quality and promote economic growth. It is a vision that will build upon existing transportation assets and strive to improve overall system efficiency. Most importantly, it is a vision that will offer transportation users, or customers, choices. The automobile has a monopoly on modal market share. Continued dominance by this mode will make it difficult for transit options to survive. If options do not exist, customers have no choices and the predictions offered by Mr. Gallis may become a reality.

Recommendations

The evaluation results have indicated that there is no single solution for mitigating congestion in the study area. Transportation and land use strategies must be coordinated to form a comprehensive transportation system that includes immediate, mid-term and long-term actions. These actions include: improving the efficiency, operation and safety of existing transportation systems; better managing the demand for travel; and increasing the supply for transport services. Ultimately, these recommendations serve to address the goals established by this study. Meeting mobility needs and providing options to customers are paramount to success. Establishing land use policies that focus on centers rather than continued sprawl will lead to better overall system performance.

Immediate Actions (Foundation)

Immediate actions focus on examining ways to improve upon existing programs and establish a foundation for evaluation, implementation and monitoring of the Vision. Immediate actions are intended to take place in a zero to two year timeframe. The actions are as follows:

Public Education

Education must be an ongoing process to inform the public and decision makers of the benefits and costs of transportation strategies. In addition, the importance of the transportation and land use connection needs to be emphasized to local and state officials. Implementation needs to be consensus driven and broad-based support needs to be attained. SWRPA should continue to engage various media outlets to keep awareness of transportation issues on the forefront, and continue to work with state and local officials to gain additional support and funding for transportation improvements.

Land Use Review

Local land use boards should begin to review master plans and plans of conservation and development to identify how transportation is supported by local zoning regulations. Municipalities should coordinate with the regional planning organizations to discuss how changes can be made to local policy to support elements of the Vision.

SWRPA should conduct a detailed land use study to evaluate potential for additional transportation corridor and transit-oriented development in the study area. At a minimum, this study should analyze existing zoning regulations and master plans of development, identify realistic potential for growth, and recommend development densities and land use mixes capable of supporting a range of travel options.

Expand Travel Demand Management Programs

Travel Demand Management (TDM) programs should be expanded to help reduce the number of peak-period single occupant automobile trips in the study area. A number of strategies have been identified in the Vision to encourage work schedule changes, shorter trip making and ridesharing. It is recommended that continued efforts to implement, market and monitor TDM strategies be stressed. TDM strategies that focus on providing incentives to modify travel behavior are preferred to those that penalize. Examples of programs that can have an impact on peak period trips are as follows:

- Telecommuting;
- Flexible Work Weeks;
- Staggered Work Hours;
- Organized Vanpools; and
- Voluntary Distance Based Pricing.

SWRPA – in partnership with ConnDOT and transportation management organizations – should study the performance of existing TDM programs. This study should assess the effectiveness of current outreach and marketing strategies, develop creative strategies for altering traveler behavior, calculate the total cost of removing single-occupant vehicles from roadways during peak periods and identify methods that may be implemented to more closely track TDM program participation and monitor program performance.

Short-Term Actions (Incremental)

The short-term actions are intended to further evaluate and implement improvements over a two to seven year period to enhance the existing transport system and better manage transport demand in the study area. These improvements do not involve significant expansion in transport services, but can help to alleviate localized constraints and improve safety incrementally. These improvements are as follows:

Transit Operational Improvements

1. There is an immediate need for additional parking at Metro North rail stations. Providing additional spaces will increase the convenience of using the train for both intra- and interstate customers. In general, all stations should include provisions for additional parking capacity, but significant expansion should be targeted at the following locations:

- South Norwalk;
- Noroton Heights;
- Stamford; and
- Greenwich.

SWRPA should continue to work with local municipalities to explore opportunities to expand parking capacity at rail stations. Landscape architects should be employed to help chief elected officials and the public envision parking structures that do not detract, but enhance community character. Stated preference surveys can be helpful in determining the expected impact that increased parking has on rail ridership.

2. Intelligent Transportation Systems (ITS) should be used to improve the efficiency and operation of existing bus service in the corridor. Automatic Vehicle Location (AVL) and Electronic Fare Collection will make bus trips more convenient for customers and reduce overall travel times. These technologies will also provide saving to transit agencies by improving operations, automating transactions and optimizing fleet management.

In addition, Weigh-In-Motion technology should be evaluated for use at the Greenwich weigh station. This strategy can provide savings for both the state and the trucking industry.

SWRPA should evaluate current ITS technologies for applicability in the study area. Pilot programs can be established to test the impacts to bus operations and truck weight limit enforcement.

3. Reducing rail fare and parking costs for intrastate customers can achieve significant benefits by making rail trips more affordable. Providing free transfers between local bus and rail connections would make intrastate travel by transit a more viable alternative to automobile travel.

SWRPA should engage Metro North and ConnDOT in discussions about intrastate rail pricing. SWRPA should continue to build upon the positive discussions facilitated by the Vision 2020 study and look for opportunities to implement pilot programs to test market response to reduced intrastate fares.

4. Implementation of a universal commuter pass, such as a SmartCard, can make transit trips more attractive from a convenience perspective. A universal commuter pass could be designed to enable commuters to use a single fare medium to pay for a full range of transport services including bus, rail and parking and to seamlessly transfer among service providers. Use of SmartCard technology also would facilitate implementation of pricing programs such as value pricing of transit services.

ConnDOT has expressed an interest in using a universal commuter pass to simplify use of transit services. SWRPA should continue to market the results of its Regional Transit Card Implementation Study to ConnDOT and transit providers. SWRPA should also continue to pursue the recommendations contained in the “Next Steps” section of the Transit Card Study.

5. Establishing intermodal hubs with strong bicycle and pedestrian connectivity is essential to both strengthening urban revitalization efforts as well as making transit a competitive alternative. Transit cannot reach its full potential unless significant density exists to support it. Urban centers in southwestern Connecticut have the opportunity to embrace development practices that favor high density and mixed land use clustering around rail stations. The stations themselves should be upgraded where appropriate to become highly visible and accessible nodes for the collection and transfer of transit customers. Station areas should include safe and direct bicycle and pedestrian facilities to facilitate access by non-motorized modes of transport. In addition, ITS technology should be available to keep passengers informed of schedules and other pertinent transit information. Major hubs should be developed at the following locations:

- New Haven State Street Train Station
- Bridgeport Train Station

- South Norwalk Train Station
- Stamford Train Station
- Danbury Train Station
- Derby Train Station

SWRPA should continue to work with municipalities, transit agencies and the state bicycle and pedestrian coordinator to improve bicycle and pedestrian facilities and amenities in and around transit hubs and on transit vehicles. Improved connectivity is essentially to strengthening hubs and providing a foundation for traditional neighborhood and transit oriented development. The other critical element to the hub concept is ensuring that frequent connections to rail and bus service are offered and stations are attractive and highly visible. The long term growth of transit and cluster development is predicated on strong connections.

I-95 Operational Improvements

Along I-95, numerous deficiencies were identified relating to the spacing and operations of interchange ramps. Improvements to deficient locations would focus mainly on safety and operations. While improvements to several segments of I-95 in the study area are ongoing, the greatest remaining need for improvement exists between Interchange 6 in Stamford and Interchange 16 in Norwalk. The congestion along this segment of I-95 was measured to be the worst in the corridor.

To properly evaluate the feasibility of such improvements, the physical improvements need to be conceptually engineered. The practical considerations of construction, maintenance of traffic, right of way and environmental impact would need to be addressed in greater detail. Additional evaluation of these interchange locations should be conducted to determine specific project feasibility. Future evaluation should consider the following:

- Safety and operational improvements at specific interchanges;
- Additional operational lanes;
- Geometric modifications of entrance and exit ramps;
- Consolidation of interchanges;
- Horizontal and vertical alignment modifications;
- Ramp metering or peak period ramp closures;
- Increased ramp spacing; and
- Deployment of additional ITS technology.

SWRPA should seek funding for a detailed operational study of I-95 between Stamford and Norwalk. Environmental and social impacts should be considered. Preliminary engineering should be performed to estimate alignment options and costs. Improvement to this section of I-95 can reduce localized congestion and improve safety.

Traffic Systems Management (TSM)

Improvements to the safety and operation of major arterial roads in the study corridor can reduce congestions and decrease accidents. These strategies do not generally include increases in roadway capacity, but instead maximize the efficiency of existing capacity with location specific improvements. Some of the techniques that could be used include:

- Signal timing and coordination;
- Access management; and
- Operational improvements – i.e. turn lanes, shoulders, geometric modification.

Specifically, the Route 1 corridor from New Haven to Greenwich should be targeted for TSM improvements. Continued evaluation and implementation of signal coordination can offer substantial benefits in terms of travel time savings, emissions reductions and accident reduction. Intersections that experience above average accident rates or poor Levels of Service should be prioritized for improvement. Design modification should be considered for intersections and segments of Route 1 that are currently substandard from an operational or safety perspective. In addition, access management practices should be applied to segments of Route 1 that exhibit congestion due to high frequencies of driveways and poor site access planning.

SWRPA should coordinate with ConnDOT to identify intersections on Route 1 that could be improved through signal coordination or operational modification. SWRPA should encourage municipalities to incorporate access management practices when approving new development or revising existing site plans. SWRPA should engage ConnDOT on discussions to allow member representation on the State Traffic Commission when regional impacts resulting from development is concerned.

Truck Parking at Rest Area

The current demand for truck parking at rest areas far exceeds supply. The spillover of trucks onto highway lanes and ramps creates significant safety issues along the I-95 corridor. Efforts to evaluate the future capacity needs for truck parking should be supported.

SWRPA should assist ConnDOT with efforts to expand existing rest areas while minimize impacts to communities. Opportunities for new rest areas should be explored.

Changes to Zoning Regulations

SWRPA should work with municipalities to structure zoning regulations to embrace transit friendly development, walkable communities, increased density and mixing of land uses, reduced parking requirements, and access management along transportation corridors and in town centers.

Long-Term Actions (Vision)

Long-term actions include the visionary elements of this study. They involve long range efforts to increase system capacity that is complementary with study goals and expandable to meet future needs. Long-term actions would likely take place in a seven to twenty year period due to the variability in state and federal processes required for project implementation.

Transit Capacity Expansion

SWRPA should advance transit system expansion as a necessary strategy to meet future demand for transportation mobility. Providing fast, comfortable and affordable service can penetrate the intrastate market and help shape land use policy that favors centers over sprawl. A detailed implementation study is recommended to determine how new rail transit services could be integrated into the existing Metro North schedules. In addition, Bus Rapid Transit should be tested for practicality along the Route 1 corridor from New Haven to Greenwich. The success of the Coastal Link service and the relative strength of the Vision indicate potential for improved interregional bus service. By providing improved transit along the coastal corridors, opportunities to reach inland with improved rail and BRT services will become available. Establishing a strong trunk system is the necessary first step to creating a sustainable regional transit vision. Key elements are as follows:

1. Improving Metro North service for intrastate customers would serve a growing market that is largely unmet. Capitalizing on the Hub Express and New Haven Line Local concepts of the Vision would

make intrastate rail travel faster, more convenient and less expensive for commuters. The Hub Express has the greatest potential for success, both in the peak periods as well as the off-peak periods of the day. Fast and frequent service between major intermodal hubs can help support urban revitalization efforts and serve a large number of existing employment centers.

2. Bus Rapid Transit (BRT) opportunities should be explored to offer high end bus service that is both flexible and fast. BRT should, to the extent possible, have preferential treatment that provides travel time advantages to buses over cars. In some locations preferential treatment would require exclusive lanes on roads and highways, while in more heavily developed areas signal prioritization can be used to give buses an advantage.

Specifically, BRT should be explored as a high priority for the Route 1 corridor. The high concentrations of population and employment along this corridor require the flexibility that bus transit can offer. Where additional widening can be accommodated or on-street parking reduced, exclusive bus lanes should be constructed. In more heavily developed areas where widening is not an option, signal priority should be considered at intersections. BRT can provide enhanced mobility for existing bus riders and attract new customers by providing a competitive alternative to automobile transport.

3. Danbury Branch Service should be evaluated further to determine the feasibility of enhanced rail service along this corridor. Perhaps the greatest challenge to providing fast and reliable service in this corridor is in constructing dual tracks. Although the forecasted ridership is significantly less than that of the New Haven Line, the Danbury Local Service can provide a strong inland connection to a growing market.
4. Inland BRT services should be evaluated once the successful implementation of the Route 1 service is attained. Good north-south connections are an essential component to the Vision in terms of providing enhanced mobility and accessibility.

I-95 Capacity Expansion

The expansion of I-95 to include two additional lanes should be considered as a strategy to help alleviate congestion along the corridor. These lanes should be managed through pricing to optimize performance and encourage ridesharing. The managed lanes represent a creative approach to improving the I-95 corridor. Making them become a reality will require careful study to assess their physical and operation feasibility. Key issues such as providing conflict-free access to and from the lanes must be addressed in greater detail. These lanes will likely require major structural modifications to many bridges over I-95.

SWRPA should pursue the managed lanes strategy of the Vision as the preferred configuration for expansion. Providing value priced reversible lanes can offer opportunities to encourage ridesharing, enhance transit, improve vehicular flow, offer travel time savings and generate revenues. The uses for these lanes are flexible and expandable through pricing. SWRPA should seek funding for additional study of how value pricing can be used to manage traffic on the I-95 corridor as well as on other corridors in the state.

Addition of lanes for general purpose use is not recommended.

Support for Other Strategies

Although not formally evaluated as part of the Vision 2020 Study, other strategies exist that can have a significant impact on future transport needs in southwestern Connecticut. These strategies were excluded either because they formed a connection with regions that are external to the defined study area or are being

evaluated as part of a more detailed study. SWRPA should continue to be involved with these issues to determine potential synergy with the Vision. Other strategies needing continued monitoring are as follows:

Interstate Rail

More than eighty percent of rail trips in southwestern Connecticut are interstate. The heavy attraction to the New York market and high costs associated with automobile use make rail transit a highly competitive alternative along the coastal corridor. Improvements to this service including fleet configuration, infrastructure upgrades and service upgrades should be coordinated with intrastate service improvements so that optimum system performance can be achieved.

Freight

Since a majority of freight moves into and through southwestern Connecticut by truck, efforts should be made to explore opportunities to utilize alternate modes to reduce truck traffic. Several constraints currently exist to providing more rail freight service, not the least of which is economics, however continued assessment of alternate freight possibilities should be undertaken. Opportunities for improved freight service are tied to the following issues:

- Need for another lower Hudson River crossing to access New York City and Connecticut,
- A rail capacity study similar to the Mid-Atlantic Rail Study to determine the actual track capacity due to passenger and freight rail services and schedules, and
- Market analysis of the viability of Feeder Barge Service from intermodal ports in New Jersey to a deep water port in Connecticut.

Ferry

Passenger ferry service may offer some opportunities for additional transit connections between Connecticut ports, Long Island's North Shore, lower Manhattan and LaGuardia Airport. SWRPA should continue to monitor the results of the Long Island Sound Waterborne Transportation Plan and other studies of potential interstate passenger ferry services.

Airport Connections

Opportunities for improving transit connections between southwestern Connecticut and regional airports should be examined. Connections to Bradley International, J. F. Kennedy International, LaGuardia, Newark and Westchester County airports should be included in any evaluation of airport connections.

Route 7

Plans to widen Route 7 to a four-lane arterial with full roadside access from Wilton to Danbury should be supported. Plans should incorporate ITS, where appropriate, to further improve the safety and operation of the roadway and to support use of priority signal treatments for transit.

Interstate 84

Plans to widen I-84 from Danbury to Southington should be supported. The existing configuration of two lanes in each direction contributes to significant delay and safety issues, especially during inclement weather. In addition, I-84 is a route heavily traveled by trucks. The rolling terrain in the corridor contributes to significant grade issues along the highway, which trucks must overcome. The slowing of these trucks to climb hills creates turbulence in the traffic flow and often conflicts with higher speed vehicles.

Merritt Parkway

Although the Merritt Parkway was not evaluated as part of the Vision, it is recommended that SWRPA evaluate this roadway and its interchanges for safety and operational deficiencies. Such evaluation should include a study of opportunities for improved emergency access and response and use of ITS to further improve the safety and operations of the roadway.